

# ISPC 5/ 2-STF-7,62 - PCB connector



1748972

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PCB connector, nominal cross section: 6 mm<sup>2</sup>, color: green, nominal current: 41 A, rated voltage (III/2): 1000 V, contact surface: Sn, contact connection type: Pin, number of potentials: 2, number of rows: 1, number of positions: 2, number of connections: 2, product range: ISPC 5/...STF, pitch: 7.62 mm, connection method: Push-in spring connection, conductor/PCB connection direction: 0 °, locking clip: - without locking clip, plug-in system: COMBICON PC 5, locking: Screw locking mechanism, mounting: Screw flange, type of packaging: packed in cardboard

## Your advantages

- Time saving push-in connection, tools not required
- Defined contact force ensures that contact remains stable over the long term
- Clamping space opened by means of fixed screwdriver enables convenient conductor connection
- Inverted connector with pin contacts for touch-proof device outputs or free-hanging cable/cable connections
- Screwable flange for superior mechanical stability
- 600 V UL approval in the smallest of dimensions

## Commercial data

|                                      |                     |
|--------------------------------------|---------------------|
| Item number                          | 1748972             |
| Packing unit                         | 50 pc               |
| Minimum order quantity               | 50 pc               |
| Sales key                            | AA04                |
| Product key                          | AADFCC              |
| Catalog page                         | Page 535 (C-1-2013) |
| GTIN                                 | 4046356312639       |
| Weight per piece (including packing) | 12.397 g            |
| Weight per piece (excluding packing) | 12.377 g            |
| Customs tariff number                | 85366990            |
| Country of origin                    | IN                  |

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## Technical data

### Product properties

|                       |                       |
|-----------------------|-----------------------|
| Product type          | PCB connector         |
| Product family        | ISPC 5/...-STF        |
| Product line          | COMBICON Connectors L |
| Type                  | Inverted              |
| Number of positions   | 2                     |
| Pitch                 | 7.62 mm               |
| Number of connections | 2                     |
| Number of rows        | 1                     |
| Number of potentials  | 2                     |
| Mounting flange       | Screw flange          |

### Data management status

|                  |    |
|------------------|----|
| Article revision | 03 |
|------------------|----|

### Electrical properties

|                             |         |
|-----------------------------|---------|
| Nominal current $I_N$       | 41 A    |
| Nominal voltage $U_N$       | 1000 V  |
| Contact resistance          | 0.55 mΩ |
| Rated voltage (III/3)       | 1000 V  |
| Rated surge voltage (III/3) | 8 kV    |
| Rated voltage (III/2)       | 1000 V  |
| Rated surge voltage (III/2) | 8 kV    |
| Rated voltage (II/2)        | 1000 V  |
| Rated surge voltage (II/2)  | 6 kV    |

### Connection data

#### Connection technology

|                         |                   |
|-------------------------|-------------------|
| Type                    | Inverted          |
| Connector system        | COMBICON PC 5     |
| Nominal cross section   | 6 mm <sup>2</sup> |
| Contact connection type | Pin               |

#### Interlock

|                   |                         |
|-------------------|-------------------------|
| Locking type      | Screw locking mechanism |
| Mounting flange   | Screw flange            |
| Tightening torque | 0.3 Nm ... 0.7 Nm       |

#### Conductor connection

|                                    |  |
|------------------------------------|--|
| Connection method                  | Push-in spring connection                  |
| Conductor/PCB connection direction | 0 °  |
| Conductor cross section rigid      | 0.2 mm <sup>2</sup> ... 10 mm <sup>2</sup> |

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|   |  |
|---|--|
| Conductor cross section flexible  | 0.2 mm <sup>2</sup> ... 6 mm <sup>2</sup>    |
| Conductor cross section AWG   | 24 ... 8                                     |
| Conductor cross section flexible, with ferrule without plastic sleeve                     | 0.25 mm <sup>2</sup> ... 6 mm <sup>2</sup>   |
| Conductor cross section, flexible, with ferrule, with plastic sleeve                      | 0.25 mm <sup>2</sup> ... 4 mm <sup>2</sup>   |
| 2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve | 0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> |
| Cylindrical gauge a x b / diameter  | 4.3 mm x 4.0 mm / 4.0 mm                     |
| Stripping length  | 15 mm  |

## Specifications for ferrules without insulating collar

|  |   |
|--|---|
| recommended crimping tool                                    | 1212034 CRIMPFOX 6  |
|  | 1213144 CRIMPFOX CENTRUS 6S                                   |
|  | 1213146 CRIMPFOX CENTRUS 6H                                   |
| ferrules without insulating collar, according to DIN 46228-1 | Cross section: 0.5 mm <sup>2</sup> ; Length: 10 mm ... 15 mm  |
|  | Cross section: 0.75 mm <sup>2</sup> ; Length: 10 mm ... 15 mm |
|  | Cross section: 1 mm <sup>2</sup> ; Length: 10 mm ... 15 mm    |
|  | Cross section: 1.5 mm <sup>2</sup> ; Length: 12 mm ... 15 mm  |
|  | Cross section: 2.5 mm <sup>2</sup> ; Length: 12 mm ... 15 mm  |
|  | Cross section: 4 mm <sup>2</sup> ; Length: 12 mm ... 15 mm    |
|  | Cross section: 6 mm <sup>2</sup> ; Length: 12 mm ... 15 mm    |

## Specifications for ferrules with insulating collar

|   |   |
|---|---|
| recommended crimping tool                                 | 1212034 CRIMPFOX 6  |
|   | 1213144 CRIMPFOX CENTRUS 6S                                   |
|   | 1213146 CRIMPFOX CENTRUS 6H                                   |
| ferrules with insulating collar, according to DIN 46228-4 | Cross section: 0.5 mm <sup>2</sup> ; Length: 10 mm ... 15 mm  |
|   | Cross section: 0.75 mm <sup>2</sup> ; Length: 12 mm ... 15 mm |
|   | Cross section: 1 mm <sup>2</sup> ; Length: 12 mm ... 15 mm    |
|   | Cross section: 1.5 mm <sup>2</sup> ; Length: 12 mm ... 15 mm  |
|   | Cross section: 2.5 mm <sup>2</sup> ; Length: 12 mm ... 15 mm  |
|   | Cross section: 4 mm <sup>2</sup> ; Length: 12 mm ... 15 mm    |

## Material specifications

### Material data - contact

|  |  |
|--|--|
| Note                                     | WEEE/RoHS-compliant, free of whiskers according to IEC 60068-2-82/JEDEC JESD 201 |
| Contact material                         | Cu alloy   |
| Surface characteristics                  | Tin-plated   |
| Metal surface terminal point (top layer) | Tin (4 - 8 µm Sn)  |
| Metal surface contact area (top layer)   | Tin (4 - 8 µm Sn)  |

### Material data - housing

|                           |              |
|---------------------------|--------------|
| Color (Housing)           | green (6021) |
| Insulating material       | PA           |
| Insulating material group | I            |

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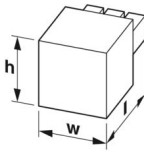


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|   |        |
|---|--------|
| CTI according to IEC 60112  | 600    |
| Flammability rating according to UL 94                            | V0     |
| Glow wire flammability index GWFI according to EN 60695-2-12      | 850    |
| Glow wire ignition temperature GWIT according to EN 60695-2-13    | 775    |
| Temperature for the ball pressure test according to EN 60695-10-2 | 125 °C |

## Dimensions

|                     |  |
|---------------------|--|
| Dimensional drawing |  |
| Pitch               | 7.62 mm  |
| Width [w]           | 30.46 mm   |
| Height [h]          | 19.8 mm  |
| Length [l]          | 40.5 mm  |

## Mounting

### Flange

|                   |                   |
|-------------------|-------------------|
| Tightening torque | 0.3 Nm ... 0.7 Nm |
|-------------------|-------------------|

## Notes

|                    |  |
|--------------------|--|
| Notes on operation | In accordance with IEC 61984, COMBICON connectors have no switching power (COC). During designated use, they must not be plugged in or disconnected when carrying voltage or under load. |
|--------------------|--|

## Mechanical tests

### Conductor connection

|               |                     |
|---------------|---------------------|
| Specification | IEC 60999-1:1999-11 |
| Result        | Test passed         |

### Test for conductor damage and slackening

|               |                     |
|---------------|---------------------|
| Specification | IEC 60999-1:1999-11 |
| Result        | Test passed         |

### Repeated connection and disconnection

|               |                     |
|---------------|---------------------|
| Specification | IEC 60999-1:1999-11 |
| Result        | Test passed         |

### Pull-out test

|   |   |
|---|---|
| Specification   | IEC 60999-1:1999-11                     |
| Conductor cross section/conductor type/tractive force setpoint/actual value | 0.2 mm <sup>2</sup> / solid / > 10 N    |
|   | 0.2 mm <sup>2</sup> / flexible / > 10 N |

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|  |                                       |
|--|---------------------------------------|
|  | 10 mm <sup>2</sup> / solid / > 90 N   |
|  | 6 mm <sup>2</sup> / flexible / > 80 N |

## Insertion and withdrawal forces

|                                     |                        |
|-------------------------------------|------------------------|
| Specification                       | IEC 60512-13-2:2006-02 |
| Result                              | Test passed            |
| No. of cycles                       | 25                     |
| Insertion strength per pos. approx. | 7.5 N                  |
| Withdraw strength per pos. approx.  | 5 N                    |

## Resistance of inscriptions

|               |                        |
|---------------|------------------------|
| Specification | IEC 60068-2-70:1995-12 |
| Result        | Test passed            |

## Polarization and coding

|               |                        |
|---------------|------------------------|
| Specification | IEC 60512-13-5:2006-02 |
| Result        | Test passed            |

## Visual inspection

|               |                       |
|---------------|-----------------------|
| Specification | IEC 60512-1-1:2002-02 |
| Result        | Test passed           |

## Dimension check

|               |                       |
|---------------|-----------------------|
| Specification | IEC 60512-1-2:2002-02 |
| Result        | Test passed           |

## Environmental and real-life conditions

### Vibration test

|                        |                             |
|------------------------|-----------------------------|
| Specification          | IEC 60068-2-6:2007-12       |
| Frequency              | 10 - 150 - 10 Hz            |
| Sweep speed            | 1 octave/min                |
| Amplitude              | 0.35 mm (10 Hz ... 60.1 Hz) |
| Acceleration           | 5g (60.1 Hz ... 150 Hz)     |
| Test duration per axis | 2.5 h                       |
| Test directions        | X-, Y- and Z-axis           |

### Durability test

|  |                       |
|--|-----------------------|
| Specification                          | IEC 60512-9-1:2010-03 |
| Impulse withstand voltage at sea level | 9.8 kV                |
| Contact resistance R <sub>1</sub>      | 0.55 mΩ               |
| Contact resistance R <sub>2</sub>      | 0.6 mΩ                |
| Insertion/withdrawal cycles            | 25                    |

### Climatic test

|                  |   |
|------------------|---|
| Specification    | ISO 6988:1985-02  |
| Corrosive stress | 0.2 dm <sup>3</sup> SO <sub>2</sub> on 300 dm <sup>3</sup> /40 °C/1 cycle |
| Thermal stress   | 100 °C/168 h  |

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|                                   |         |
|-----------------------------------|---------|
| Power-frequency withstand voltage | 4.26 kV |
|-----------------------------------|---------|

## Ambient conditions

|   |   |
|---|---|
| Ambient temperature (operation)         | -40 °C ... 100 °C (dependent on the derating curve) |
| Ambient temperature (storage/transport) | -40 °C ... 70 °C                                    |
| Relative humidity (storage/transport)   | 30 % ... 70 %                                       |
| Ambient temperature (assembly)          | -5 °C ... 100 °C                                    |

## Electrical tests

### Thermal test | Test group C

|                            |                       |
|----------------------------|-----------------------|
| Specification              | IEC 60512-5-1:2002-02 |
| Tested number of positions | 12                    |

### Insulation resistance

|  |                       |
|--|-----------------------|
| Specification                                | IEC 60512-3-1:2002-02 |
| Insulation resistance, neighboring positions | $>10^{12} \Omega$     |

### Temperature cycles

|               |                     |
|---------------|---------------------|
| Specification | IEC 60999-1:1999-11 |
| Result        | Test passed         |

### Air clearances and creepage distances |

|  |                     |
|--|---------------------|
| Specification  | IEC 60664-1:2007-04 |
| Insulating material group                              | I                   |
| Comparative tracking index (IEC 60112)                 | CTI 600             |
| Rated insulation voltage (III/3)                       | 1000 V              |
| Rated surge voltage (III/3)                            | 8 kV                |
| minimum clearance value - non-homogenous field (III/3) | 8 mm                |
| minimum creepage distance (III/3)                      | 12.5 mm             |
| Rated insulation voltage (III/2)                       | 1000 V              |
| Rated surge voltage (III/2)                            | 8 kV                |
| minimum clearance value - non-homogenous field (III/2) | 8 mm                |
| minimum creepage distance (III/2)                      | 8 mm                |
| Rated insulation voltage (II/2)                        | 1000 V              |
| Rated surge voltage (II/2)                             | 6 kV                |
| minimum clearance value - non-homogenous field (II/2)  | 5.5 mm              |
| minimum creepage distance (II/2)                       | 5.5 mm              |

## Packaging specifications

|                   |                     |
|-------------------|---------------------|
| Type of packaging | packed in cardboard |
|-------------------|---------------------|

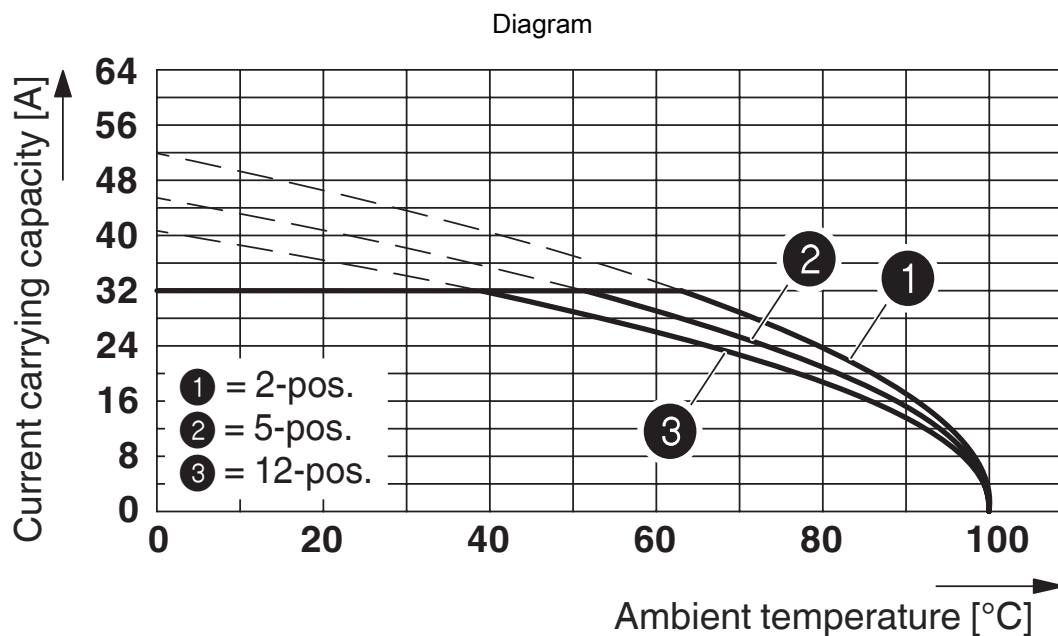
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## Drawings



Type: ISPC 5/...-STF-7,62 with IPC 5/...-GF-7,62

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1748972>

|   |                       |                       |                   |                             |
|---|-----------------------|-----------------------|-------------------|-----------------------------|
| <div> <b>cULus Recognized</b><br/>Approval ID: E60425-19920722</div> |                       |                       |                   |                             |
|   | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| Use group B   |                       |                       |                   |                             |
|   | 600 V                 | 35 A                  | 24 - 8            | -                           |
| Use group C   |                       |                       |                   |                             |
|   | 600 V                 | 35 A                  | 24 - 8            | -                           |



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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-11.0 | 27460202 |
| ECLASS-12.0 | 27460202 |
| ECLASS-13.0 | 27460202 |

### ETIM

|          |          |
|----------|----------|
| ETIM 9.0 | EC002638 |
|----------|----------|

### UNSPSC

|             |          |
|-------------|----------|
| UNSPSC 21.0 | 39121400 |
|-------------|----------|

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## Environmental product compliance

|   |  |
|---|--|
| EU RoHS                                 |  |
| Fulfills EU RoHS substance requirements | Yes, No exemptions                       |
| China RoHS                              |  |
| Environment friendly use period (EFUP)  | EFUP-E                                   |
|   | No hazardous substances above the limits |
| EU REACH SVHC                           |  |
| REACH candidate substance (CAS No.)     | No substance above 0.1 wt%               |

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